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## SEARCH REQUEST FORM

Examiner # (Mandatory): 77354 Requester's Full Name: KEN RINEHARTArt Unit 3749 Location (Bldg/Room#): CPK1 11C57 Phone (circle 305 306 308) 1722Serial Number: 09/676367 Results Format Preferred (circle): PAPER DISK E-MAILTitle of Invention METHOD OF PRODUCING SOIL, SOIL PROCESSING UNITInventors (please provide full names): YOSHIAKE YUKOYAMA, TOORU KODAMA,  
YASUO MIHAMA, KATUO TAKAMIYAEarliest Priority Date: 3/31/1998

Keywords (include any known synonyms registry numbers, explanation of initialisms):

SOIL, VACUUM, ~~DEAN~~, DIOXIN, SOIL REMEDIATION, ORGANIC  
HALIDES

JUN 18 2002

## Search Topic:

Please write detailed statement of the search topic, and the concept of the invention. Describe as specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc., if known. You may include a copy of the abstract and the broadcast or most relevant claim(s).

## STAFF USE ONLY

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Searcher Phone #: <u>308-4836</u>	<input type="checkbox"/> N.A. Sequence	<input type="checkbox"/> STN
Searcher Location: <u>ELC3780</u>	<input type="checkbox"/> A.A. Sequence	<input type="checkbox"/> Questel/Orbit
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Date Completed: <u>7/03/02</u>	<input type="checkbox"/> Bibliographic	<input type="checkbox"/> WWW/Internet
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		<input type="checkbox"/> Other (specify)

8/3/1 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
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06663653 \*\*Image available\*\*  
PROCESSOR, PROCESSING METHOD, AND METHOD OF PROCESSING SOIL

PUB. NO.: 2000-249477 [JP 2000249477 A]  
PUBLISHED: September 14, 2000 (20000914)  
INVENTOR(s): KIGAMI TORU  
MISHIMA YASUO  
TAKAMIYA KATSUO  
YOKOYAMA YOSHIAKI  
ABE TAKESHI  
MIZUNO HITOSHI  
APPLICANT(s): HOEI SHOKAI KK  
YOKOYAMA YOSHIAKI  
APPL. NO.: 11-132245 [JP 99132245]  
FILED: May 13, 1999 (19990513)  
PRIORITY: 10-148435 [JP 98148435], JP (Japan), May 13, 1998 (19980513)  
10-273417 [JP 98273417], JP (Japan), September 28, 1998  
(19980928)  
10-377175 [JP 98377175], JP (Japan), December 27, 1998  
(19981227)

8/3/2 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2002 JPO & JAPIO. All rts. reserv.

06660261 \*\*Image available\*\*  
METHOD AND APPARATUS FOR TREATMENT, AND METHOD FOR IMPROVING SOIL

PUB. NO.: 2000-246085 [JP 2000246085 A]  
PUBLISHED: September 12, 2000 (20000912)  
INVENTOR(s): KIGAMI TORU  
MISHIMA YASUO  
TAKAMIYA KATSUO  
YOKOYAMA YOSHIAKI  
ABE TAKESHI  
MIZUNO HITOSHI  
APPLICANT(s): HOEI SHOKAI KK  
YOKOYAMA YOSHIAKI  
APPL. NO.: 11-320233 [JP 99320233]  
Division of 11-132245 [JP 99132245]  
FILED: May 13, 1999 (19990513)  
PRIORITY: 10-148435 [JP 98148435], JP (Japan), May 13, 1998 (19980513)  
10-273417 [JP 98273417], JP (Japan), September 28, 1998  
(19980928)  
10-377175 [JP 98377175], JP (Japan), December 27, 1998  
(19981227)

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**34/3/1 (Item 1 from file: 347)**

DIALOG(R)File 347:JAPIO

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07051244 \*\*Image available\*\*

METHOD AND APPARATUS FOR **REMOVING DIOXINS IN SOIL AND FLY ASH**

PUB. NO.: 2001-278878 [JP 2001278878 A]

PUBLISHED: October 10, 2001 (20011010)

INVENTOR(s): KAMIOKA SUSUMU

NAGAI KOZO

SUGATA MASAHIRO

TANIMOTO FUMIO

YAMASHITA SEIICHI

NAKADA HARUSHIGE

APPLICANT(s): KAWASAKI HEAVY IND LTD

RES INST FOR PROD DEV

NEOS CO LTD

APPL. NO.: 2000-094178 [JP 200094178]

FILED: March 30, 2000 (20000330)

**34/3/2 (Item 2 from file: 347)**

DIALOG(R)File 347:JAPIO

(c) 2002 JPO & JAPIO. All rts. reserv.

07031930 \*\*Image available\*\*

METHOD FOR CLEANING **ORGANIC COMPOUND CONTAINING CHLORINE**

PUB. NO.: 2001-259564 [JP 2001259564 A]

PUBLISHED: September 25, 2001 (20010925)

INVENTOR(s): FUJISAWA MASATOSHI

KATO YASUYOSHI

APPLICANT(s): BABCOCK HITACHI KK

APPL. NO.: 2000-073611 [JP 200073611]

FILED: March 16, 2000 (20000316)

**34/3/3 (Item 3 from file: 347)**

DIALOG(R)File 347:JAPIO

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06943062 \*\*Image available\*\*

METHOD FOR **DECOMPOSING HALOGENATED ORGANIC COMPOUND**

PUB. NO.: 2001-170613 [JP 2001170613 A]

PUBLISHED: June 26, 2001 (20010626)

INVENTOR(s): HASHIMOTO MASANORI

SUZUKI KATSUAKI

APPLICANT(s): KURITA WATER IND LTD

APPL. NO.: 11-363021 [JP 99363021]

FILED: December 21, 1999 (19991221)

**34/3/4 (Item 4 from file: 347)**

DIALOG(R)File 347:JAPIO

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06756842

METHOD OF **DECOMPOSING HALOGENATED ORGANIC COMPOUND**

PUB. NO.: 2000-342710 [JP 2000342710 A]

PUBLISHED: December 12, 2000 (20001212)

INVENTOR(s): HASHIMOTO MASANORI

APPLICANT(s): KURITA WATER IND LTD

APPL. NO.: 11-161221 [JP 99161221]

FILED: June 08, 1999 (19990608)

34/3/5 (Item 5 from file: 347)  
DIALOG(R)File 347:JAPIO  
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06756841  
METHOD OF DECOMPOSING HALOGENATED ORGANIC COMPOUND

PUB. NO.: 2000-342709 [JP 2000342709 A]  
PUBLISHED: December 12, 2000 (20001212)  
INVENTOR(s): HASHIMOTO MASANORI  
APPLICANT(s): KURITA WATER IND LTD  
APPL. NO.: 11-159816 [JP 99159816]  
FILED: June 07, 1999 (19990607)

34/3/6 (Item 6 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2002 JPO & JAPIO. All rts. reserv.

06572052 \*\*Image available\*\*  
METHOD AND APPARATUS FOR TREATMENT OF EXHAUST GAS

PUB. NO.: 2000-157840 [JP 2000157840 A]  
PUBLISHED: June 13, 2000 (20000613)  
INVENTOR(s): SAMEJIMA RYOJI  
ASO TOMONOBU  
UKAI HIDEKAZU  
YAMAGUCHI SHINICHI  
APPLICANT(s): TAKUMA CO LTD  
KYOCERA CORP  
APPL. NO.: 10-338674 [JP 98338674]  
FILED: November 30, 1998 (19981130)

34/3/7 (Item 7 from file: 347)  
DIALOG(R)File 347:JAPIO  
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05096954  
METHOD FOR DECOMPOSING AROMATIC HALIDE COMPOUND

PUB. NO.: 08-052454 [JP 8052454 A]  
PUBLISHED: February 27, 1996 (19960227)  
INVENTOR(s): MIYAMURA AKIRA  
IIMURA SEIJI  
UKISU YUUJI  
UCHIDA TAKAHARU  
APPLICANT(s): EBARA CORP [000023] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 06-210672 [JP 94210672]  
FILED: August 12, 1994 (19940812)

34/3/8 (Item 8 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2002 JPO & JAPIO. All rts. reserv.

04749161  
REMOVAL OF VOLATILE ORGANIC COMPOUND FROM SOIL

PUB. NO.: 07-041761 [JP 7041761 A]  
PUBLISHED: February 10, 1995 (19950210)  
INVENTOR(s): MATSUMOTO MAMORU  
KAWASAKI YOSHINARI  
SAKANASHI TAKAFUMI  
APPLICANT(s): KATAYAMA CHEM WORKS CO LTD [365247] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 05-141936 [JP 93141936]  
FILED: June 14, 1993 (19930614)

**34/3/9 (Item 1 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

014453997

WPI Acc No: 2002-274700/200232

XRAM Acc No: C02-081398

XRPX Acc No: N02-214355

**Decomposing -treating dioxin contaminated soil under grignard reagent condition, in refuse incineration, comprises dehydrating soil, mixing magnesium powder, heating, adding promotion liquid and neutralizing with acid**

Patent Assignee: MIURA KOGYO KK (MIUR-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001346900	A	20011218	JP 2000175959	A	20000612	200232 B

Priority Applications (No Type Date): JP 2000175959 A 20000612

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2001346900	A	6	A62D-003/00	

**34/3/10 (Item 2 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

014347977 \*\*Image available\*\*

WPI Acc No: 2002-168680/200222

XRPX Acc No: N02-129178

**Contaminated soil purification method involves removing organic compound from soil by heating underground water by applying voltage between injection tube and electrode**

Patent Assignee: HAZAMA GUMI LTD (HAZA )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2002001299	A	20020108	JP 2000188662	A	20000623	200222 B

Priority Applications (No Type Date): JP 2000188662 A 20000623

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2002001299	A	7	B09C-001/06	

**34/3/11 (Item 3 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
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014293788

WPI Acc No: 2002-114490/200215

XRAM Acc No: C02-035223

**Adsorption powder for removing mercury from gas stream of coal-fired power plants, contains carbon, alkaline material, cupric chloride impregnated carbon, and potassium iodide impregnated carbon**

Patent Assignee: MERCK & CO INC (MERI )

Inventor: EL-SHOUBARY Y; MAES R J; SETH S

Number of Countries: 095 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200195997	A1	20011220	WO 2001US18245	A	20010605	200215 B
AU 200168198	A	20011224	AU 200168198	A	20010605	200227

Priority Applications (No Type Date): US 2000590994 A 20000609

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200195997 A1 E 15 B01D-053/04

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL  
PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200168198 A B01D-053/04 Based on patent WO 200195997

**34/3/12 (Item 4 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

014272172 \*\*Image available\*\*

WPI Acc No: 2002-092874/200213

XRAM Acc No: C02-029256

XRPX Acc No: N02-068498

Removal of dioxin from soil and/or fly-ash, involves extracting  
dioxin from soil and/or fly-ash using organic solvent, followed by  
decomposing dioxin present in organic solvent and recovering  
organic solvent

Patent Assignee: KAWASAKI HEAVY IND LTD (KAWJ ); NEOS KK (NEOS ); SEISAN  
KAIHATSU KAGAKU KENKYUSHO (SEIS )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001278878	A	20011010	JP 200094178	A	20000330	200213 B

Priority Applications (No Type Date): JP 200094178 A 20000330

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 2001278878 A 8 C07D-319/24

**34/3/13 (Item 5 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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014264903 \*\*Image available\*\*

WPI Acc No: 2002-085601/200212

XRAM Acc No: C02-026323

XRPX Acc No: N02-063662

Processing harmful chlorine compound e.g. dioxin involves processing  
sludge obtained by mixing specific oxides and phosphates with chlorine  
compound in oscillating fluid bed apparatus

Patent Assignee: CHUO KAKOKI KK (CHUX )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001259601	A	20010925	JP 2000121820	A	20000316	200212 B

Priority Applications (No Type Date): JP 2000121820 A 20000316

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 2001259601 A 4 B09B-003/00

**34/3/14 (Item 6 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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014243602

WPI Acc No: 2002-064302/200209

XRAM Acc No: C02-018782

XRPX Acc No: N02-047775

**Processing of solid substance contaminated with halogenated organic compound, for land reclamation, involves decomposing and heating halogenated organic compound with asphalt and alkali metal compound**

Patent Assignee: IDEMITSU KOSAN CO LTD (IDEK )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001252637	A	20010918	JP 200068438	A	20000313	200209 B

Priority Applications (No Type Date): JP 200068438 A 20000313

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001252637	A		4	B09B-003/00	

**34/3/15 (Item 7 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

014038525

WPI Acc No: 2001-522738/200157

XRAM Acc No: C01-156106

**Adsorption powder for removing pollutants, e.g. mercury, from high temperature, high moisture gas stream, comprises carbon, calcium hydroxide, cupric chloride impregnated carbon, and potassium iodide impregnated carbon**

Patent Assignee: MERCK & CO INC (MERI )

Inventor: EL-SHOUBARY Y; MAES R J; SETH S

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200162368	A1	20010830	WO 2001US5259	A	20010220	200157 B
AU 200141561	A	20010903	AU 200141561	A	20010220	200202

Priority Applications (No Type Date): US 2000512409 A 20000224

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200162368	A1	E	14	B01D-053/04	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200141561 A B01D-053/04 Based on patent WO 200162368

**34/3/16 (Item 8 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

013742785

WPI Acc No: 2001-227014/200124

XRAM Acc No: C01-067857

XRPX Acc No: N01-161350

**Removing and destroying chlorinated aromatics, e.g. dioxins, from contaminated soil by acidifying contaminated soil, applying heat under pressure, and condensing and collecting produced vapor**

Patent Assignee: VELICOGNA D (VELI-I); WHITTAKER H (WHIT-I)

Inventor: VELICOGNA D; WHITTAKER H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2273394	A1	20001130	CA 2273394	A	19990531	200124 B

Priority Applications (No Type Date): CA 2273394 A 19990531

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
CA 2273394 A1 E 9 B09C-001/08

34/3/17 (Item 9 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013742694  
WPI Acc No: 2001-226924/200123  
XRAM Acc No: C01-067799

**Adsorption powder for removing mercury and other metals, dioxins ,  
furans and other organic compounds from gas stream, comprises carbon,  
alkaline material, cupric chloride and potassium iodide impregnated  
carbon**

Patent Assignee: MERCK & CO INC (MERI )  
Inventor: EL-SHOUBARY Y; MAES R; SETH S C  
Number of Countries: 093 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200123072	A1	20010405	WO 2000US26217	A	20000925	200123 B
AU 200077127	A	20010430	AU 200077127	A	20000925	200142

Priority Applications (No Type Date): US 2000590843 A 20000609; US 99408361  
A 19990929

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
WO 200123072 A1 E 18 B01D-053/04

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO  
RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200077127 A B01D-053/04 Based on patent WO 200123072

34/3/18 (Item 10 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013736227  
WPI Acc No: 2001-220457/200123  
XRAM Acc No: C01-065944  
XRPX Acc No: N01-157208

**Biological purification for polluted environment**

Patent Assignee: KURITA WATER IND LTD (KURK )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000317436	A	20001121	JP 99125706	A	19990506	200123 B

Priority Applications (No Type Date): JP 99125706 A 19990506

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
JP 2000317436 A 10 B09C-001/10

34/3/19 (Item 11 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013685840 \*\*Image available\*\*  
WPI Acc No: 2001-170064/200118  
XRAM Acc No: C01-051039  
XRPX Acc No: N01-122664

**Cleaning of contaminated e.g. soils , slurries, production wastes,  
involves gasification of contaminants together with fuel, followed by**



**oxidation of the gas**

Patent Assignee: BILFINGER BERGER BAU (BILF-N)

Inventor: LAURE G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19938034	A1	20010222	DE 1038034	A	19990812	200118	B
DE 19938034	C2	20011206	DE 1038034	A	19990812	200175	

Priority Applications (No Type Date): DE 1038034 A 19990812

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19938034	A1		6	F23G-007/14	
DE 19938034	C2			F23G-007/14	

**34/3/20 (Item 12 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

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013607862

WPI Acc No: 2001-092070/200111

XRAM Acc No: C01-027290

XRPX Acc No: N01-069747

**Destruction of halogenated contaminants in solid media such as soil, sand, silt, clay, tar, involves mixing solvent with solid medium, adding polyethylene glycol and alkali metal hydroxide and heating**

Patent Assignee: PETROZYME TECHNOLOGIES INC (PETR-N)

Inventor: BILLINGSLEY K; SINGH A; WARD O P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CA 2268585	A1	20001012	CA 2268585	A	19990412	200111	B

Priority Applications (No Type Date): CA 2268585 A 19990412

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2268585	A1	E	13	B09C-001/02	

**34/3/21 (Item 13 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

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013503077

WPI Acc No: 2000-675018/200066

XRAM Acc No: C00-204801

XRPX Acc No: N00-500502

**Dioxine decomposition method for e.g. flyash containing dioxine, involves mixing potassium hydroxide alcohol solution with flyash and heating in predetermined temperature region in airtight container**

Patent Assignee: MIURA KOGYO KK (MIUR-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2000233165	A	20000829	JP 9936435	A	19990215	200066	B

Priority Applications (No Type Date): JP 9936435 A 19990215

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000233165	A		3	B09B-003/00	

**34/3/22 (Item 14 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

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013486741

**\*\*Image available\*\***

WPI Acc No: 2000-658684/200064  
XRAM Acc No: C00-199688  
XRPX Acc No: N00-488306

**Purification of solid substance contaminated with organic halogens involves extracting organic halogen with a solvent, removing solvent extract and isolating organic halogen**

Patent Assignee: SHINKO PANTEC CO LTD (SHIA )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000246002	A	20000912	JP 9948479	A	19990225	200064 B

Priority Applications (No Type Date): JP 9948479 A 19990225

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000246002	A		9	B01D-011/02	

### 34/3/23 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013478003 \*\*Image available\*\*

WPI Acc No: 2000-649946/200063  
XRAM Acc No: C00-196975  
XRPX Acc No: N00-481878

**Purification of solid substance such as sludge and soil contaminated with organic halogen compound, involves decomposing organic halogen compound by adding an alkali metal**

Patent Assignee: SHINKO PANTEC CO LTD (SHIA )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000246228	A	20000912	JP 9951642	A	19990226	200063 B

Priority Applications (No Type Date): JP 9951642 A 19990226

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000246228	A		6	B09C-001/02	

### 34/3/24 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013423908

WPI Acc No: 2000-595851/200057  
XRAM Acc No: C00-178150  
XRPX Acc No: N00-441381

**Method for decontaminating soil by removing halogenated, light and heavy hydrocarbons as well as organic and inorganic lead compounds and other heavy metal compounds**

Patent Assignee: INTERPOLE LTD (INTE-N)  
Inventor: MODICA G  
Number of Countries: 025 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2348422	A	20001004	GB 20003990	A	20000222	200057 B
EP 1043082	A2	20001011	EP 2000201057	A	20000322	200057

Priority Applications (No Type Date): GB 997168 A 19990330

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2348422	A		13	B09C-001/06	
EP 1043082	A2	E		B09C-001/06	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

34/3/25 (Item 17 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

013385640 \*\*Image available\*\*  
WPI Acc No: 2000-557578/200051  
XRAM Acc No: C00-165845  
XRPX Acc No: N00-412608

Organic waste treatment by hydrolyzing organic waste to form  
single-phase, water-based organic compound solution and oxidizing with  
peroxydisulfate to form carbon dioxide, water and inorganic residues  
Patent Assignee: UNIV CALIFORNIA (REGC )  
Inventor: ADAMSON M G; BALAZS G B; COOPER J F; HSU P; LEWIS P R  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
US 6096283 A 20000801 US 9855029 A 19980403 200051 B

Priority Applications (No Type Date): US 9855029 A 19980403  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 6096283 A 6 C01C-003/00

34/3/26 (Item 18 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

013156734 \*\*Image available\*\*  
WPI Acc No: 2000-328606/200028  
XRAM Acc No: C00-099498  
XRPX Acc No: N00-247384

Decontaminating aqueous media derived from industrial and sanitary  
waste-streams and natural sources by using an electrochemical  
peroxidation process  
Patent Assignee: RES FOUND SUNY (RESU-N); UNIV RES FOUND STATE (UYRE-N)  
Inventor: CHIARENZELLI J R; SCRUDATO R J  
Number of Countries: 081 Number of Patents: 003  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
WO 200017113 A1 20000330 WO 99US21948 A 19990921 200028 B  
US 6045707 A 20000404 US 98157920 A 19980921 200028  
AU 9962587 A 20000410 AU 9962587 A 19990921 200035

Priority Applications (No Type Date): US 98157920 A 19980921.  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
WO 200017113 A1 E 34 C02F-001/72  
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU  
CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU  
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
UG US UZ VN YU ZW  
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW  
US 6045707 A C02F-001/461  
AU 9962587 A C02F-001/72 Based on patent WO 200017113

34/3/27 (Item 19 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

013053154 \*\*Image available\*\*  
WPI Acc No: 2000-225009/200020  
XRAM Acc No: C00-068884  
XRPX Acc No: N00-168570

Apparatus for separating contaminants from inert substrate materials,

particularly mercury and organic compounds from soil , sludges, mud etc. has indirectly heated chamber through which material is fed and vapor condensate handling system

Patent Assignee: SCC ENVIRONMENTAL (SCCE-N)

Inventor: ELY R; SIDDLE H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2237291	A1	19991111	CA 2237291	A	19980511	200020 B

Priority Applications (No Type Date): CA 2237291 A 19980511

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2237291	A1	E	22	B09C-001/06	

34/3/28 (Item 20 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

012541153 \*\*Image available\*\*

WPI Acc No: 1999-347259/199929

XRAM Acc No: C99-102153

**Sustained release composition comprises alcohol ester polyhydroxy acid and inorganic salts**

Patent Assignee: REGENESIS BIOREMEDIATION PROD (REGE-N); FARONE W A

(FARO-I); KOENIGSBERG S S (KOEN-I); PALMER T (PALM-I)

Inventor: FARONE W A; KOENIGSBERG S S; PALMER T

Number of Countries: 084 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9924367	A1	19990520	WO 98US24082	A	19981112	199929 B
AU 9915839	A	19990531	AU 9915839	A	19981112	199941
JP 2000511969	W	20000912	WO 98US24082	A	19981112	200050
			JP 99527112	A	19981112	
EP 1044168	A1	20001018	EP 98960177	A	19981112	200053
			WO 98US24082	A	19981112	
JP 3239899	B2	20011217	WO 98US24082	A	19981112	200203
			JP 99527112	A	19981112	
AU 745457	B	20020321	AU 9915839	A	19981112	200233
US 20020061584	A1	20020523	US 9765513	P	19971112	200239
			US 98190630	A	19981112	
			US 20015250	A	20011107	

Priority Applications (No Type Date): US 9765513 P 19971112; US 98190630 A 19981112; US 20015250 A 20011107

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9924367	A1	E	50	C02F-001/68	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 9915839 A Based on patent WO 9924367

JP 2000511969 W 57 C08G-063/06 Based on patent WO 9924367

EP 1044168 A1 E C02F-001/68 Based on patent WO 9924367

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE

JP 3239899 B2 24 C08G-063/06 Previous Publ. patent JP 200011969 Based on patent WO 9924367

AU 745457 B C02F-001/68 Previous Publ. patent AU 9915839

Based on patent WO 9924367

US 20020061584 A1 C12S-001/00 Provisional application US 9765513

Div ex application US 98190630

34/3/29 (Item 21 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

012063418

WPI Acc No: 1998-480329/199841

XRAM Acc No: C98-145253

XRPX Acc No: N98-374783

Removal of halogenated organic compounds from soil - effected by heating after treatment with formic acid

Patent Assignee: GENERAL ELECTRIC CO (GENE )

Inventor: KRABBENHOFT H O; WEBB J L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5797995	A	19980825	US 95407454	A	19950329	199841 B
			US 96611609	A	19960308	

Priority Applications (No Type Date): US 95407454 A 19950329; US 96611609 A 19960308

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5797995	A		4	B08B-003/08	Cont of application US 95407454

34/3/30 (Item 22 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

011623578

WPI Acc No: 1998-040706/199804

XRAM Acc No: C98-013520

XRPX Acc No: N98-032614

Removing halogenated organic compounds from contaminated particulate material, e.g. soil - by mixing with organic acid or sodium bicarbonate, heating and passing steam through mixture

Patent Assignee: GENERAL ELECTRIC CO (GENE ); MAXYMILLAN TECHNOLOGIES INC (MAXY-N)

Inventor: KRABBENHOFT H O; MAXYMILLIAN J H; WARREN S A; WEBB J L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5688335	A	19971118	US 95523177	A	19950905	199804 B

Priority Applications (No Type Date): US 95523177 A 19950905

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5688335	A		4	B08B-007/00	

34/3/31 (Item 23 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

011387858 \*\*Image available\*\*

WPI Acc No: 1997-365765/199734

XRAM Acc No: C97-117356

Removal of organic solvents and inorganic contaminants from gases generated in eg. paint or foodstuffs industries - comprises passing gas through biological and plasma reactors

Patent Assignee: RAFFLENBEUL & PARTNER (RAFF-N)

Inventor: RAFFLENBEUL R

Number of Countries: 004 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 785016	A1	19970723	EP 96100667	A	19960117	199734' B

Priority Applications (No Type Date): EP 96100667 A 19960117  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
EP 785016 A1 G 9  
Designated States (Regional): AT CH DE LI

**34/3/32 (Item 24 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

011086815  
WPI Acc No: 1997-064739/199706  
XRAM Acc No: C97-021225  
**Salt removal from aq. soln. - by addn. of isopropyl-amine or ethyl-amine to cause at least a portion of the salt to form a solid ppte**  
Patent Assignee: BADER M S (BADE-I)  
Inventor: BADER M S  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
US 5587088 A 19961224 US 95509781 A 19950801 199706 B

Priority Applications (No Type Date): US 95509781 A 19950801  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 5587088 A 7 C02F-001/58

**34/3/33 (Item 25 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

010770730  
WPI Acc No: 1996-267684/199627  
XRAM Acc No: C96-084943  
XRPX Acc No: N96-225115  
**Removal of halogenated organic cpds from particulate material - by high-temp stream stripping in presence of sodium or ammonium salt**  
Patent Assignee: GENERAL ELECTRIC CO (GENE )  
Inventor: GASCOYNE D G; KRABBENHOFT H O; WEBB J L  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
US 5520745 A 19960528 US 94300899 A 19940906 199627 B

Priority Applications (No Type Date): US 94300899 A 19940906  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 5520745 A 5 B08B-007/04

**34/3/34 (Item 26 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

010618734  
WPI Acc No: 1996-115687/199612  
XRAM Acc No: C96-036619  
XRPX Acc No: N96-096751  
**Decontaminating inert porous material, partic. soil - comprises admixing material with organic liq., heating , passing vapours through activated carbon@ bed and condensing.**  
Patent Assignee: GENERAL ELECTRIC CO (GENE )  
Inventor: ABRAMOWICZ D A; EL-SHOUBARY Y; KIM B M; SHAPIRO A P; SHILLING N Z  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5489738	A	19960206	US 94302301	A	19940908	199612 B

Priority Applications (No Type Date): US 94302301 A 19940908

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5489738	A		4	A62D-003/00	

### 34/3/35 (Item 27 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

010444291

WPI Acc No: 1995-345608/199545

XRAM Acc No: C95-151872

XRPX Acc No: N95-258358

**Treatment of soils contaminated with dioxin - by electrophoretic treatment of a slurry of the soil, washing the recovered components with solvent and thermally treating to remove residual solvent**

Patent Assignee: REIMPELL O (REIM-I)

Inventor: BARTUSCH G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4411598	A1	19951005	DE 4411598	A	19940402	199545 B

Priority Applications (No Type Date): DE 4411598 A 19940402

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4411598	A1		2	A62D-003/00	

### 34/3/36 (Item 28 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

010270039 \*\*Image available\*\*

WPI Acc No: 1995-171294/199523

XRAM Acc No: C95-079611

**In-situ soil decontamination process - uses high frequency capacitor electrodes to boil off contaminants**

Patent Assignee: ARBES GES ARBEITSFOERDERUNG BESCHAEFTIGU (ARBE-N)

Inventor: BLONSKY H; JUETTERSCHENKE P; KARSCH W; RIPPL G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4337192	A1	19950504	DE 4337192	A	19931030	199523 B

Priority Applications (No Type Date): DE 4337192 A 19931030

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4337192	A1		5	B09C-001/00	

### 34/3/37 (Item 29 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

010266794

WPI Acc No: 1995-168049/199522

XRAM Acc No: C95-078203

**Removing halogenated organic cpds. from contaminated media - by addn. of an aq. hydrogen-donating organic cpd. then an alkali hydroxide, dehydrating and heating**

Patent Assignee: KORNEL A (KORN-I); ROGERS C J (ROGE-I); SPARKS H L (SPAR-I)

Inventor: KORNEL A; ROGERS C J; SPARKS H L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
NZ 245624	A	19950427	NZ 245624	A	19930106	199522 B

Priority Applications (No Type Date): NZ 245624 A 19930106

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
NZ 245624	A		14	C07B-035/06	

**34/3/38 (Item 30 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009808885

WPI Acc No: 1994-088740/199411

XRAM Acc No: C94-040523

**Treating organochlorine cpd. to render it harmless - by contact with copper at elevated temp.**

Patent Assignee: JAPAN ATOMIC ENERGY RES INST (JAAT )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6039242	A	19940215	JP 92238764	A	19920724	199411 B

Priority Applications (No Type Date): JP 92238764 A 19920724

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6039242	A		3	B01D-053/34	

**34/3/39 (Item 31 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009657865

WPI Acc No: 1993-351417/199344

XRAM Acc No: C93-155935

XRFX Acc No: N93-271110

**High temp. hazardous waste treatment - with recovery of toxic volatile metals and energy, and the prodn. of an environmentally acceptable exhaust gas from melted iron@ bath contg. dissolved carbon@**

Patent Assignee: COSTA B (COST-I); ELAIA SRL (ELAI-N)

Inventor: COSTA B

Number of Countries: 008 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9320898	A1	19931028	WO 93IT34	A	19930419	199344 B
IT 1270320	B	19970502	IT 92TA1	A	19920421	199746

Priority Applications (No Type Date): IT 92TA1 A 19920421

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9320898	A1	E	26	A62D-003/00	

Designated States (National): DE GB JP PL RU SE US

IT 1270320	B			F23J-000/00	
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**34/3/40 (Item 32 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009533538

WPI Acc No: 1993-227079/199328

XRAM Acc No: C93-101093

XRFX Acc No: N93-174325

**Toxic heavy metals and organic contaminants removal from waste**



**materials - by heating with sorbent to form insol., permanently non leachable metal cpd. safely land filled, for building materials**

Patent Assignee: PHYSICAL SCI INC (PHYS-N)

Inventor: ITSE D C; MORENCY J; SRINIVASACHAR S

Number of Countries: 021 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9312842	A1	19930708	WO 92US11048	A	19921222	199328 B
US 5245120	A	19930914	US 91815344	A	19911227	199338
AU 9333308	A	19930728	AU 9333308	A	19921222	199347
EP 618825	A1	19941012	WO 92US11048	A	19921222	199439
			EP 93901109	A	19921222	

Priority Applications (No Type Date): US 91815344 A 19911227

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9312842 A1 E 54 A62D-003/00

Designated States (National): AU CA JP US

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

US 5245120 A 19 B09B-003/00

AU 9333308 A A62D-003/00 Based on patent WO 9312842

EP 618825 A1 E A62D-003/00 Based on patent WO 9312842

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

**34/3/41 (Item 33 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009333399

WPI Acc No: 1993-026862/199303

Related WPI Acc No: 1991-273713

XRAM Acc No: C93-012057

**Dehalogenation of materials contaminated with halogenated hydrocarbon(s) - comprises forming mixt. of contaminated material esp. waste materials, metal hydroxide and methoxyethanol and incubating at slightly raised temp.**

Patent Assignee: CHEM WASTE MANAGEMENT INC (CHWA-N)

Inventor: FRIEDMAN A J; HALPERN Y

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5174893	A	19921229	US 90520732	A	19900509	199303 B
			US 91713689	A	19910611	

Priority Applications (No Type Date): US 90520732 A 19900509; US 91713689 A 19910611

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5174893 A 6 C10G-037/68 Cont of application US 90520732  
Cont of patent US 5043054

**34/3/42 (Item 34 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009212751 \*\*Image available\*\*

WPI Acc No: 1992-340173/199241

XRAM Acc No: C92-151305

XRPX Acc No: N92-259448

**Decontamination of soils, sediments and sludges - to remove PCBs by addn. of reagent in heated reaction zone**

Patent Assignee: SDTX TECHNOLOGIES INC (SDTX-N)

Inventor: HOCH R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5149444	A	19920922	US 90516262	A	19900430	199241 B
			US 90547839	A	19900703	

Priority Applications (No Type Date): US 90547839 A 19900703; US 90516262 A 19900430

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5149444	A	11	B09B-003/00	CIP of application US 90516262 CIP of patent US 5096600

34/3/43 (Item 35 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

008977908

WPI Acc No: 1992-105177/199214

XRAM Acc No: C92-049196

XRPX Acc No: N92-078791

Decontamination of soils contg. e.g PCB(s) - by combination of thermal desorption (or extn.) using known decomposition technology

Patent Assignee: SDTX TECHN INC (SDTX-N)

Inventor: HOCH R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2046096	A	19920106	CA 2046096	A	19910705	199214 B

Priority Applications (No Type Date): US 90549207 A 19900705

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CA 2046096	A	18		

34/3/44 (Item 36 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

008849055

WPI Acc No: 1991-353072/199148

Related WPI Acc No: 1991-259821

XRAM Acc No: C91-152237

XRPX Acc No: N91-270491

Decomposition of contaminated soil, sludge, liq. halogenated cpds. - contained in contaminated medium, with alkali or alkaline earth metal (bi)carbonate or hydroxide in presence of carbohydrate

Patent Assignee: KORNEL A (KORN-I); ROGERS C (ROGE-I); SPARKS H L (SPAR-I); ENVIRONMENTAL PROTECTION AGENCY (ENVI-N); US ENVIRONMENTAL PROTECTION (USEN-N); US ENVIRONMENTAL PR (USEN-N)

Inventor: KORNEL A; ROGERS C; SPARKS H L; ROGERS C J

Number of Countries: 035 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5064526	A	19911112	US 90620127	A	19901130	199148 B
WO 9117229	A	19911114				199148
EP 526462	A1	19930210	EP 91905199	A	19910221	199306
			WO 91US1112	A	19910221	
JP 5508666	W	19931202	JP 91505125	A	19910221	199402
			WO 91US1112	A	19910221	
EP 526462	A4	19930421	EP 91905199	A	19910000	199526
EP 526462	B1	19970108	EP 91905199	A	19910221	199707
			WO 91US1112	A	19910221	
DE 69124094	E	19970220	DE 624094	A	19910221	199713
			EP 91905199	A	19910221	
			WO 91US1112	A	19910221	
JP 3025701	B2	20000327	JP 91505125	A	19910221	200020

Priority Applications (No Type Date): US 90620127 A 19901130; US 90515892 A 19900427

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 5064526	A		6		
JP 3025701	B2		7	C10G-029/04	Previous Publ. patent JP 5508666 Based on patent WO 9117229

WO 9117229 A

Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO PL RO SD SE SU US

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL OA SE

EP 526462	A1	E	24	C10G-029/04	Based on patent WO 9117229
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Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE

JP 5508666	W		6	C10G-029/04	Based on patent WO 9117229
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EP 526462	B1	E	10	C10G-029/04	Based on patent WO 9117229
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Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69124094	E			C10G-029/04	Based on patent EP 526462
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Based on patent WO 9117229

EP 526462	A4			B08B-003/08	
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**34/3/45 (Item 37 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

008615140

WPI Acc No: 1991-119170/199117

XRAM Acc No: C91-051314

XRPX Acc No: N91-091760

**Spiral separator - removes heavy metals and organics from soil**

Patent Assignee: BSN BODEMSANERING NEDERLAND BV (BSNB-N); BSN BODEMSANERING N (BSNB-N)

Inventor: VAN DER WAAL I M J; VANDERWALL I M J; VAN DER WAAL IR M J

Number of Countries: 014 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 423900	A	19910424	EP 90202783	A	19901019	199117 B
NL 8902599	A	19910516	NL 892599	A	19891020	199123
EP 423900	B1	19940105	EP 90202783	A	19901019	199402
DE 69005781	E	19940217	DE 605781	A	19901019	199408
			EP 90202783	A	19901019	
ES 2047832	T3	19940301	EP 90202783	A	19901019	199413

Priority Applications (No Type Date): NL 892599 A 19891020

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 423900	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					

EP 423900	B1	E	10	B09B-003/00	
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Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69005781	E			B09B-003/00	Based on patent EP 423900
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ES 2047832	T3			B09B-003/00	Based on patent EP 423900
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**34/3/46 (Item 38 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

008510102 \*\*Image available\*\*

WPI Acc No: 1991-014186/199102

XRPX Acc No: N91-010870

**Method of waste disposal - involves waste stream heating and comminuting dried product**

Patent Assignee: AMERICAN WASTE REDUCTION CORP (AMWA-N); AMERI WASTE REDUCTI (AMWA-N)

Inventor: SUMMERS W A

Number of Countries: 034 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4977840	A	19901218	US 89410386	A	19890920	199102 B
WO 9104306	A	19910404				199116
AU 9066021	A	19910418				199129
ZA 9007540	A	19910925				199144
EP 496788	A1	19920805	EP 90915664	A	19900910	199232
			WO 90US5101	A	19900910	
CA 2066667	C	20010417	CA 2066667	A	19900910	200128
			WO 90US5101	A	19900910	

Priority Applications (No Type Date): US 89410386 A 19890920

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9104306 A  
Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP  
KP KR LK LU MC MG MW NL NO RO SD SE SU  
Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL OA SE  
EP 496788 A1 E 16 C10B-053/00 Based on patent WO 9104306  
Designated States (Regional): AT BE CH DE DK ES FR GB IT LI LU NL SE  
CA 2066667 C E C10B-053/00 Based on patent WO 9104306

34/3/47 (Item 39 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008510101 \*\*Image available\*\*

WPI Acc No: 1991-014185/199102

Related WPI Acc No: 1989-208520

XRAM Acc No: C91-006192

XRPX Acc No: N91-010869

**Separating organic contaminants from contaminated feed materials -  
by thermal separation at temp. inhibiting formation of undesirable  
chemical reactions, and collecting volatilised gaseous chemicals**

Patent Assignee: CHEM WASTE MANAGE (CHWA-N)

Inventor: ADER M; DALEY P S; FOCHTMAN E G; GRUTSCH J F; PLYS A G; SWANSTROM  
C P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4977839	A	19901218	US 89360365	A	19890602	199102 B

Priority Applications (No Type Date): US 89360365 A 19890602; US 88143891 A  
19880114

34/3/48 (Item 40 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008456277

WPI Acc No: 1990-343277/199046

XRAM Acc No: C90-148810

XRPX Acc No: N90-262503

**Treatment of contaminated materials contg. halogenated organic  
cpds. - with polyethylene glycol and potassium hydroxide or sodium  
hydroxide at high temps**

Patent Assignee: KORNEL A (KORN-I); BCD GROUP INC (BCDB-N); ROGERS C  
(ROGE-I); SPARKS H L (SPAR-I); US ENVELOPE CO (USEN ); ROGERS C J  
(ROGE-I)

Inventor: KORNEL A; ROGERS C J; SPARKS H L; ROGERS C

Number of Countries: 016 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 397310	A	19901114	EP 90303089	A	19900322	199046 B
CA 2006825	A	19901111				199106

US 5019175	A	19910528	US 89350425	A	19890511	199124
CA 2026910	A	19920405				199226
EP 397310	B1	19931124	EP 90303089	A	19900322	199347
DE 69004734	E	19940105	DE 604734	A	19900322	199402
			EP 90303089	A	19900322	
ES 2047846	T3	19940301	EP 90303089	A	19900322	199413
CA 2006825	C	19951212	CA 2006825	A	19891228	199611
CA 2026910	C	20001121	CA 2026910	A	19901004	200065

Priority Applications (No Type Date): US 89350425 A 19890511; CA 2026910 A 19901004

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 397310	A		7		
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
US 5019175	A		6		
CA 2026910	A			C07C-025/18	
EP 397310	B1 E	8	A62D-003/00		
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69004734	E		A62D-003/00	Based on patent EP 397310	
ES 2047846	T3		A62D-003/00	Based on patent EP 397310	
CA 2006825	C		B09B-003/00		
CA 2026910	C E		C07C-025/18		

**34/3/49 (Item 41 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

008433339 \*\*Image available\*\*

WPI Acc No: 1990-320339/199042

XRFX Acc No: N90-245464

**Thermal treatment process for organically contaminated material - has kiln, heated by hot gases from furnace, with purge gas moving slowly through to sweep off vapour containing organic substances**

Patent Assignee: INT TECHN CORP (ITTE-N)

Inventor: FOX R D; HELSEL R W; MAK K K; NOVAK R G

Number of Countries: 014 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9011475	A	19901004				199042 B
US 4961391	A	19901009	US 89330167	A	19890329	199043
EP 420957	A	19910410	EP 90905881	A	19900322	199115
EP 420957	A4	19911113	EP 90905881	A	19900000	199520

Priority Applications (No Type Date): US 89330167 A 19890329

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9011475	A				
Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL SE					
EP 420957	A				
Designated States (Regional): CH DE ES GB IT LI					

**34/3/50 (Item 42 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

007943408

WPI Acc No: 1989-208520/198929

Related WPI Acc No: 1991-014185

XRAM Acc No: C89-092506

XRFX Acc No: N89-158995

**Process and appts. for decontaminating solids and sludges - from volatile organic chemicals and poly;chlorinated biphenyl(s), partic. preventing formation and emission of by-prod. dioxide(s)**

Patent Assignee: CHEM WASTE MANAGEMENT INC (CHWA-N); CHEM WASTE MANAGEME (CHWA-N)

Inventor: ADER M; DALEY P S; FOCHTMAN E G; PLYS A G; SWANSTROM C P  
Number of Countries: 011 Number of Patents: 007  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 324566	A	19890719	EP 89300150	A	19890109	198929	B
US 4864942	A	19890912				198946	
ES 2010082	A	19891016	ES 89128	A	19890113	199003	
JP 1310781	A	19891214	JP 895019	A	19890113	199005	
SE 8901885	A	19901127				199104	N
SE 468748	B	19930315	SE 891885	A	19890526	199313	N
CA 1337481	C	19951031	CA 588026	A	19890112	199603	

Priority Applications (No Type Date): US 88143891 A 19880114

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 324566	A	E	15		
Designated States (Regional): BE DE FR GB IT NL					
SE 468748	B			A62D-003/00	
CA 1337481	C			B09B-005/00	

**34/3/51 (Item 43 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

007900434

WPI Acc No: 1989-165546/198922

XRAM Acc No: C89-073504

XRPX Acc No: N89-126333

**Removal of hazardous organic waste from contaminated soil - by  
extn. with aq. ammonium hydroxide**

Patent Assignee: BRUYA J E (BRUY-I)

Inventor: BRUYA J E

Number of Countries: 011 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8904221	A	19890518	WO 88US3717	A	19881026	198922	B
US 4841998	A	19890627	US 87113628	A	19871026	198933	
EP 382785	A	19900822	EP 89900076	A	19881026	199034	
JP 3500982	W	19910307	JP 89500146	A	19881026	199116	

Priority Applications (No Type Date): US 87113628 A 19871026

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8904221	A	E	36		
Designated States (National): JP KR					
Designated States (Regional): CH DE FR GB IT LI NL SE					
US 4841998	A		10		
EP 382785	A				
Designated States (Regional): CH DE FR GB IT LI NL SE					

**34/3/52 (Item 44 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

007638692

WPI Acc No: 1988-272624/198839

XRAM Acc No: C88-121313

XRPX Acc No: N88-207082

**Cleaning contaminated soil - by heating in rotating furnace with  
wall temp. above spontaneous combustion point of pyrolysis prods.**

Patent Assignee: NBM AANNEMINGSBEDRIJF BV (NBMA-N); AANNEMINGSBED NBM  
(AANN-N)

Inventor: DELEUR L C

Number of Countries: 016 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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EP 284156	A	19880928	EP 88200528	A	19880321	198839	B
NL 8700726	A	19881017	NL 87726	A	19870327	198845	
DK 8801551	A	19880928				198850	
US 4881475	A	19891121	US 88172373	A	19880324	199005	
EP 284156	B	19900314				199011	
DE 3860052	G	19900419				199017	
ES 2013312	B	19900501				199023	
CA 1296224	C	19920225				199214	

Priority Applications (No Type Date): NL 87726 A 19870327

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 284156	A	E	5		
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Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

US 4881475	A		4		
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EP 284156	B	E			
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Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

### 34/3/53 (Item 45 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

007173823

WPI Acc No: 1987-170832/198725

XRAM Acc No: C87-071190

XRPX Acc No: N87-128202

Soil decontamination by direct flame treatment in rotary drum - to remove high boiling and hardly decomposable organic matter effectively and economically

Patent Assignee: RUETGERSWERKE AG (RUTG )

Inventor: COLLIN G; FORTMANN J; FRANCK H G; KRAPOTH H; STADELHOFE J W

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3543845	A	19870619	DE 3543845	A	19851212	198725	B
GB 2185558	A	19870722	GB 8629776	A	19861212	198729	
GB 2185558	B	19900620				199025	

Priority Applications (No Type Date): DE 3543845 A 19851212

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 3543845	A		3		
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### 34/3/54 (Item 46 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

004086910

WPI Acc No: 1984-232451/198438

XRAM Acc No: C84-098094

XRPX Acc No: N84-173841

Decomposition of toxic halogenated organic cpds. - used to decontaminate mineral oils, soil and plants

Patent Assignee: SEA MARCONI DECONTAMINATION SRL (SEAM-N)

Inventor: TUNDO P

Number of Countries: 018 Number of Patents: 014

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 118858	A	19840919	EP 84102310	A	19840303	198438	B
FR 2542311	A	19840914	FR 8310021	A	19830617	198442	
AU 8425167	A	19840913				198444	
BR 8401085	A	19841016				198449	
JP 59197268	A	19841108	JP 8446378	A	19840309	198451	
ZA 8401736	A	19840903	ZA 841736	A	19840308	198502	
ES 8605856	A	19860916	ES 530454	A	19840309	198647	
US 4632742	A	19861230	US 85711404	A	19850313	198703	
EP 118858	B	19880107				198802	

DE 3468331	G	19880211			198807
CA 1250303	A	19890221			198913
IT 1161215	B	19870318			198921
JP 90021275	B	19900514	JP 8446378	A	19840309 199023
IT 1194548	B	19880922			199107

Priority Applications (No Type Date): IT 8324443 A 19831230; IT 8319992 A 19830310

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 118858	A	E			
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Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

EP 118858	B	E			
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Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

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8/5/1

DIALOG(R) File 348:EUROPEAN PATENTS

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01109206

**TREATING APPARATUS, TREATING METHOD AND METHOD OF TREATING SOIL  
BEHANDLUNGSGERAT, BEHANDLUNGSVERFAHREN UND VERFAHREN ZUR BEHANDLUNG VON  
BODEN**

**PROCEDE ET APPAREIL DE TRAITEMENT ET PROCEDE DE TRAITEMENT DES SOLS**

PATENT ASSIGNEE:

Houei Syoukai Co., Ltd., (2870200), 66 Tutumicho Teraike, Toyota-shi,  
Aichi 473-0932, (JP), (Applicant designated States: all)

INVENTOR:

**YOKOYAMA, Yoshiaki**, 1-4-402, Akamidai 2-chome, Kounosu-shi, Saltama  
365-0064, (JP)

**KODAMA, Tooru**, Houei Syoukai Co., Ltd., 66 Tutumicho Teraike,  
Toyota-shi, Aichi 473-0932, (JP)

**MISHIMA, Yasuo**, Houei Syoukai Co., Ltd., 66 Tutumicho Teraike,  
Toyota-shi, Aichi 473-0932, (JP)

**TAKAMIYA, Katuo**, Houei Syoukai Co., Ltd., 66 Tutumicho Teraike,  
Toyota-shi, Aichi 473-0932, (JP)

**ABE, Tuyoshi**, Houei Syoukai Co., Ltd., 66 Tutumicho Teraike, Toyota-shi,  
Aichi 473-0932, (JP)

**MIZUNO, Hitoshi**, Houei Syoukai Co., Ltd., 66 Tutumicho Teraike,  
Toyota-shi, Aichi 473-0932, (JP)

LEGAL REPRESENTATIVE:

Waldren, Robin Michael (55603), Lloyd Wise, Treager & Co., Commonwealth  
House, 1-19 New Oxford Street, London WC1A 1LW, (GB)

PATENT (CC, No, Kind, Date): EP 1136141 A1 010926 (Basic)  
WO 9958260 991118

APPLICATION (CC, No, Date): EP 99919557 990513; WO 99JP2470 990513

PRIORITY (CC, No, Date): JP 98148435 980513; JP 98273417 980928; JP  
98377175 981227

DESIGNATED STATES: BE; DE; DK; FI; FR; GB; NL; SE

INTERNATIONAL PATENT CLASS: B09B-003/00; B09C-001/06; C22B-007/00;  
C22B-009/02; B01J-003/02

ABSTRACT EP 1136141 A1

A treatment apparatus of the present invention includes a hermetic door 115b and a retort 115c as an interface for taking out a gaseous emission containing vaporized substances from an object to be treated which is being heated in a reduced pressure state in a second hermetic chamber 103 while maintaining conditions in the second hermetic chamber. When the retort 115c is inserted into a first opening 103b of the second hermetic chamber, the hermetic door 115b in an open state is shielded from the second hermetic chamber 103, whereby condensation of the gaseous emission at the hermetic door is prevented. Accordingly, condensates can be taken out while conditions such as temperature and pressure in the hermetic chamber are maintained without the treatment apparatus being stopped. The productivity of treatment is greatly improved by continuous operation of such a treatment apparatus.

ABSTRACT WORD COUNT: 142

NOTE:

Figure number on first page: 10

LEGAL STATUS (Type, Pub Date, Kind, Text):

Reestablish: 010926 A1 Date of receipt of request for re-establishment  
of rights: 20001215

Application: 20000112 A1 International application. (Art. 158(1))

Examination: 010926 A1 Date of request for examination: 20001215

Reestablish: 010926 A1 Date of decision for re-establishment of  
rights: 20010314

Reestablish: 010926 A1 Request for re-establishment rights accepted:

Application: 010926 A1 Published application with search report

Application: 20000112 A1 International application entering European  
phase

LANGUAGE (Publication, Procedural, Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200139	1489
SPEC A	(English)	200139	53036
Total word count - document A			54525
Total word count - document B			0
Total word count - documents A + B			54525

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DIALOG(R) File 348:EUROPEAN PATENTS

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01099274

**METHOD FOR PRODUCING SOIL, SOIL-TREATING UNIT, METHOD FOR TREATING AND UNIT FOR TREATING**

**HERSTELLUNG VON BODEN, VORRICHTUNG ZUR BEHANDLUNG VON BODEN, BEHANDLUNGSVERFAHREN UND VORRICHTUNG**

**PROCEDE DE PRODUCTION DE SOL, UNITE DE TRAITEMENT DE SOL, PROCEDE DE TRAITEMENT ET UNITE DE TRAITEMENT AFFERENTE**

PATENT ASSIGNEE:

Houei Syoukai Co., Ltd., (2870200), 66 Tutumicho Teraike, Toyota-shi, Aichi 473-0932, (JP), (Applicant designated States: all)  
Yokoyama, Yoshiaki, (2870210), 1-4-402, Akamidai 2-chome, Kounosu-shi, Saitama 365-0064, (JP), (Applicant designated States: all)

INVENTOR:

**YOKOYAMA, Yoshiaki**, 1-4-402, Akamidai 2-chome, Kounosu-shi, Saitama 365-0064, (JP)

**KODAMA, Tooru**, Houei Syoukai Co., Ltd., 66, Tutumicho Teraike, Toyota-shi, Aichi 473-0932, (JP)

**MISHIMA, Yasuo**, Houei Syoukai Co., Ltd., 66, Tutumicho Teraike, Toyota-shi, Aichi 473-0932, (JP)

**TAKAMIYA, Katuo**, Houei Syoukai Co., Ltd., 66, Tutumicho Teraike, Toyota-shi, Aichi 473-0932, (JP)

LEGAL REPRESENTATIVE:

Waldren, Robin Michael (55603), Lloyd Wise, Treager & Co., Commonwealth House, 1-19 New Oxford Street, London WC1A 1LW, (GB)

PATENT (CC, No, Kind, Date): EP 1114679 A1 010711 (Basic)  
WO 9951366 991014

APPLICATION (CC, No, Date): EP 99912057 990331; WO 99JP1660 990331

PRIORITY (CC, No, Date): JP 98103297 980331; JP 98273417 980928; JP 98377175 981227

DESIGNATED STATES: BE; DE; DK; FI; FR; GB; NL; SE

INTERNATIONAL PATENT CLASS: B09B-003/00; B09C-001/06; B01D-053/34; F23G-007/14

ABSTRACT EP 1114679 A1

A body to be treated such as a soil or a flying burned ash is introduced into a sealable thermal decomposition furnace (310) and is heated under reduced pressure. A gaseous effluent derived from the body to be treated is treated in a manner wherein formation or resynthesis of dioxin is inhibited. A heating residue of the body to be treated is cooled after it is purged with a gas for displacement which is free of a halogen and has no ability to form an organic halide. By such a treatment, a content of an organic halide remaining in the heating residue of the body to be treated can be reduced to a very low level.

ABSTRACT WORD COUNT: 117

NOTE:

Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010711 A1 Published application with search report

Application: 991215 A1 International application. (Art. 158(1))

Examination: 010711 A1 Date of request for examination: 20001027

Application: 991215 A1 International application entering European phase

LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
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CLAIMS A	(English)	200128	1338
SPEC A	(English)	200128	20420
Total word count	- document A		21758
Total word count	- document B		0
Total word count	- documents A + B		21758

21/7/3 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2002 Inst for Sci Info. All rts. reserv.

08690485 Genuine Article#: 317VU Number of References: 10

**Title:** Thermal remediation of PCDD/Fs contaminated soil by zone combustion process

Author(s): Kasai E (REPRINT) ; Harjanto S; Terui T; Nakamura T; Waseda Y  
Corporate Source: TOHOKU UNIV, INST ADV MAT PROC, AOBA KU/SENDAI/MIYAGI  
9808577/JAPAN/ (REPRINT)

Journal: CHEMOSPHERE, 2000, V41, N6 (SEP), P857-864

ISSN: 0045-6535 Publication date: 20000900

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE,  
KIDLINGTON, OXFORD OX5 1GB, ENGLAND

Language: English Document Type: ARTICLE

**Abstract:** A new thermal process has been proposed for remediating soils contaminated by chlorinated organic compounds, e.g., PCDD/Fs and PCBs. This is to apply the 'zone combustion process' which utilizes stable combustion of coke particles in the packed bed to soils with air flow across the bed. The usefulness and validity were obtained the results showing that more than 98.9% of PCDD/Fs in the soil was successfully removed in a laboratory-scale experiment. Some pretreatment of the soil sample, such as drying, pre-granulation and addition of limestone was found to make the removal efficiency better. Although, some fundamentals on the behavior of PCDD/Fs, e.g., decomposition /vaporization ratios and formation of other compounds cannot be certainly identified yet, the present results clearly show a way to remediate the contaminated soils and solid wastes. (C) 2000 Elsevier Science Ltd. All rights reserved.

21/7/4 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2002 Inst for Sci Info. All rts. reserv.

08537457 Genuine Article#: 297UD Number of References: 40

**Title:** Remediation technologies of ash and soil contaminated by dioxins and relating hazardous compounds

Author(s): Harjanto S (REPRINT) ; Kasai E; Nakamura T  
Corporate Source: TOHOKU UNIV, INST ADV MAT PROC, AOBA KU/SENDAI/MIYAGI  
9808577/JAPAN/ (REPRINT)

Journal: ISIJ INTERNATIONAL, 2000, V40, N3, P266-274

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Publisher: IRON STEEL INST JAPAN KEIDANREN KAIKAN, 9-4 OTEMACHI 1-CHOME  
CHIYODA-KU, TOKYO 100, JAPAN

Language: English Document Type: REVIEW

**Abstract:** In recent years, contamination of toxic organic compounds such as polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/Fs), and polychlorinated biphenyls (PCBs) into combustion/incineration ash and soil has become a serious environmental problem. Many efforts have been made to develop efficient remediation technologies which remove, neutralize and/or decompose such compounds in solid materials. The remediation technologies may be classified into the following three types: biological (bioremediation), physical/chemical and thermal remediations. The present paper introduces several remediation technologies for ash and soil and discusses their present states of development.

21/7/5 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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04964294 Genuine Article#: UV866 Number of References: 43

**Title:** GAS PARTITIONING OF DISSOLVED VOLATILE ORGANIC -COMPOUNDS IN THE VADOSE ZONE - PRINCIPLES, TEMPERATURE EFFECTS AND LITERATURE-REVIEW

Author(s): WASHINGTON JW

Corporate Source: MEISER & EARL INC, 1512 W COLL AVE/STATE COLL//PA/16801

Abstract: Enthalpy and entropy of volatilization from dilute aqueous solutions for 26 volatile **organic** compounds (VOCs) have been determined using Henry's Law values reported in published literature. Based on the linearity of van't Hoff plots, for the temperature ranges common in **soils**, the differences in **heat** capacities of volatilization for reactants and products are very small for the VOCs studied.

When volatile solutes such as VOCs are present in **soil** water, **soil** -gas concentration often nearly is in equilibrium with the dissolved solute. Setchinow salting coefficients are linearly related to dissolved partial molar volumes for **halogenated** aliphatic compounds. Based in part on approximations from this linear relationship, equilibrium deviations from Henry's Law behavior for dilute VOC concentrations due to capillary tension or the presence of ionic solutes are small for common **soil** conditions.

Since gas/water partitioning of VOCs is temperature-sensitive and since annual **soil** moisture and temperature patterns vary geographically in documented fashion, geographically specific temporal patterns in **soil** -gas VOC concentrations are predictable in vadose zones containing dissolved VOCs. A U.S. map depicting these general **soil** -moisture and temperature patterns is provided. Gas concentrations in vadose zones containing dissolved VOCs tend to increase with increasing temperature and decreasing moisture content due to equilibrium partitioning effects.

Diagrams useful for understanding the results of **soil** -gas surveys and the efficacy of various remediation options are provided. The effect of bubbles in VOC water-sample vials on aqueous concentrations is shown to be very small. The effect of head-space volume of **soil** samples on estimated **soil** -gas concentrations can be large.

21/7/9 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04860821 JICST ACCESSION NUMBER: 01A0437097 FILE SEGMENT: JICST-E  
**Improvement of Thermal Treatment Technology for Contaminated Soil -  
Dioxin Debris Decomposition by GeoMelt Technology.**

TSUCHIYA YOSHIHIRO (1); ABUKU TOSHIKI (1)

(1) Konoike Constr. Co., Ltd.

Konoikegumi Gijutsu Kenkyu Hokoku(Technical Research Reports of Konoike  
Construction Co.), 2001, VOL.11, PAGE.1-6, FIG.7, TBL.3, REF.3

JOURNAL NUMBER: L0162AAY ISSN NO: 0914-6229

UNIVERSAL DECIMAL CLASSIFICATION: 614.76

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

ABSTRACT: The earthen material involving hazardous waste can be easily melt by using GeoMelt technology and **organic** will compounds such as **dioxins** and frans will be **decomposed** completely at the melting vessel and subsequent **thermal** oxidizer. By inserting four electrodes into the **soil** surface and making the starter path between electrodes, the Joule **heat** generated by electric resistant melts the **soil** with contaminant. This paper describes the GeoMelt technology and it's treatability test for the highly concentrated actual **dioxin** debris. (author abst.)

21/7/22 (Item 1 from file: 117)

DIALOG(R)File 117:Water Resour.Abs.

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00727240 WRA NUMBER: 9002616

**Case Study and Proposed Decontamination Steps of the Soil and Groundwater Beneath a Closed Herbicide Plant in Germany**

Jurgens, H J ; Roth, R

Dekonta G.m.b.H. Mainz (Germany, F.R.)

Chemosphere CMSHAF Vol. 18, No. 1-6, p 1163-1169, 1989. 2 fig, 7 ref. 1989

DOCUMENT TYPE: Journal article

**ABSTRACT:** A chemical pharmaceutical plant in Hamburg, Germany, which produced morphine and codeine, began production of pesticides in 1951, beginning with the manufacture of hexachlorocyclohexane (HCH) and the corresponding isolation of lindane. The inactive isomers from this production were stored on site. **Thermal decomposition** of the HCH isomers produced residues that were first discovered in 1984 and that consisted of polychlorinated **dioxins**. The case history of the removal of these residues from the immediate environment is reviewed. The groundwater below the contaminated **soil** was also contaminated with chlorobenzenes, chlorophenols and hexachlorocyclohexane. Altogether, 4081 meters of cores were analyzed geologically and 2,652 **soil** samples were taken for chemical analysis. Groundwater samples were taken from 74 wells. Probably because of its rapid degradation, only low concentrations of 2,4,5-T were detected in the surrounding **soil**. Approximately 88% of the **soil** samples contained less than 10 mg/kg of chlorobenzene, hexachlorocyclohexane and chlorophenol. PCDDs, especially 2,3,7,8-TCDD, were found nearer to the surface. Two possible sources of the PCDDs and PCDFs in the pesticide production were production of 2,3,7,8-TCDD with a low content of higher chlorinated PCDDs and PCDFs, and **thermal decomposition** of hexachlorocyclohexane isomers, mainly to higher chlorinated PCDDs and PCDFs, with a low content of 2,3,7,8-TCDD. In areas of high 2,3,7,8-TCDD concentrations, approximately 2600 cu m of **soil** was excavated to depths ranging from 0.5-4.0 m and stored in large bags until it could be decontaminated. From early 1986 to October 1987 nearly 6 tons of **organic** material, mainly chlorobenzenes, have been pumped out of the bottom of two wells. Although it is believed that this contamination does not pose a risk to the ecosphere, plans are to excavate areas of high contamination levels followed by **thermal** decontamination and refilling the **soil**. (Friedmann-PTT)

14/7/3 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00896392 JICST ACCESSION NUMBER: 89A0282498 FILE SEGMENT: JICST-E

Removal **characterization of volatile** halogenated **hydrocarbons adsorbed**  
**on soils by gas purging methods.**

YOSHIOKA MASANORI (1); YAMASAKI TOMIO (1); OKI NORIO (1); OKUNO TOSHIHIDE  
(1)

(1) Environmental Science Inst. of Hyogo Prefecture

Suishitsu Odaku Gakkai Koenshu, 1989, VOL.23rd, PAGE.391-392, FIG.2, TBL.1,  
REF.1

JOURNAL NUMBER: S0264BAN

UNIVERSAL DECIMAL CLASSIFICATION: 614.777 614.76

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

14/7/6 (Item 1 from file: 357)  
DIALOG(R) File 357: Derwent Biotech Res.  
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0085005 DBA Accession No.: 89-02996

**A modified purge -and-trap/ gas chromatography method for analysis of  
volatile hydrocarbons in microbiological degradation studies -  
waste-disposal by methane-degrading bacterium**

AUTHOR: Cochran J W; Yates M V; Henson J M

CORPORATE AFFILIATE: Northrop-Serv.

CORPORATE SOURCE: Northrop Services Inc., Robert S. Kerr Environmental  
Research Laboratory, P.O. Box 1198, Ada, OK 74820, USA.

JOURNAL: J.Microbiol.Methods (8, 6, 347-53) 1988

CODEN: JMIMDQ

LANGUAGE: English

ABSTRACT: A modification of a purge-and-trap unit is described for use in microbiological studies on aliphatic **halogenated** hydrocarbons. Sealed tubes containing bacteria, aq. medium, headspace and volatile halocarbons were used as purge vessels to monitor the disappearance of halocarbons. The volatile halocarbons are lost when conventional purge-and-trap methods are used. The method is demonstrated using methane-utilizing bacteria. An overnight culture of mixed **soil** bacteria was grown on a medium containing 12% (v/v) methane. The culture and halocarbons were mixed 1:1 (v/v) and the tube was sealed. Methane or nitrogen was added by injection and tubes were shaken at 25 deg in the dark. Halocarbons with low numbers of chlorine atoms attached within their respective groups (methanes, ethanes, ethenes) were **removed** to the greatest extent while carbon tetrachloride and 1,1,1-trichloroethane were not degraded by the mixed culture. The new method eliminates the transfer of culture between vessels. (21 ref)



28/7/3 (Item 1 from file: 99)  
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs  
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1144636 H.W. WILSON RECORD NUMBER: BAST94013190

**Volatilizing toxic metals from soil**

Clifford, Dennis A; Chen, Shen-Sin; Reznik, Carmen  
Waste Management v. 13 no5-7 ('93) p. 467-79  
DOCUMENT TYPE: Feature Article ISSN: 0956-053X

ABSTRACT: This study revealed that lead, cadmium, mercury, zinc, arsenic, and selenium can be volatilized from both spiked and actual contaminated soils by heating in inert or reducing atmospheres. Generally oxygen proved to be detrimental to the remediation process. An apparatus capable of rapidly heating soil samples to as high as 1100[degree]C was designed and built to volatilize toxic inorganic **contaminants** from 500-mg **soil** samples while purging with hydrogen, nitrogen, or nitrogen/oxygen mixtures. An average of 93 lead removal was observed for  $PbSO_4$ -,  $Pb(NO_3)_2$ -,  $PbCO_3$ -,  $Pb$ [degree]-, and  $PbO$ -spiked soil samples aged for up to two years with initial lead concentrations of 2,000 mg/kg soil when heated for 20 minutes at 900[degree]C in a flowing stream of hydrogen or nitrogen. About 50 lead removal was achieved at 750[degree]C for all the compounds at these conditions. Similar results were obtained for lead-contaminated soil from a battery waste site. Under the same conditions (900[degree]C and 20-minute heating), a sample containing 8,220 mg  $Pb$ /kg soil yielded 93 lead removal in hydrogen or nitrogen, but only 73 lead removal in air. Other toxic metals and metalloids also proved amenable to removal from soil by volatilization. The temperatures required for approximately 90 removal during 10 minutes heating in nitrogen were as follows: mercury 370[degree]C, cadmium 550[degree]C, zinc 850[degree]C, arsenic 500[degree]C, and selenium 700[degree]C. Further experiments with oxygen added to the **purge gas** showed that as little as 1 oxygen significantly lowered the removal of metals, particularly at the lower volatilization temperatures. These experimental results are encouraging; they suggest that the controlled-temperature metal-volatilization technique is potentially applicable for the permanent clean up of metalcontaminated soil. Copyright 1993, Pergamon Press Ltd.

32/7/4 (Item 1 from file: 34)  
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci  
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10157528 Genuine Article#: 490XP Number of References: 25  
**Title:** Thermal **desorption treatment of** contaminated **soils in a novel**  
**batch thermal reactor**  
**Author(s):** Smith MT; Berruti F (REPRINT) ; Mehrotra AK  
**Corporate Source:** Univ Western Ontario, Dept Chem & Biochem Engn, London/ON  
N6A 5B9/Canada/ (REPRINT); Univ Western Ontario, Dept Chem & Biochem  
Engn, London/ON N6A 5B9/Canada/; Univ Calgary, Dept Chem & Petr  
Engn, Calgary/AB T2N 1N4/Canada/  
**Journal:** INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, 2001, V40, N23 (NOV  
14), P5421-5430  
**ISSN:** 0888-5885 **Publication date:** 20011114  
**Publisher:** AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA  
**Language:** English **Document Type:** ARTICLE  
**Abstract:** Low-temperature **thermal** desorption, in which **thermal** energy  
is used to vaporize and physically separate volatile and semivolatile  
**organic contaminants** from **soil**, is among the most promising and  
economic ex situ soil remediation alternatives. Experiments were  
performed using a bench-scale **thermal** desorber, the batch **thermal**  
reactor, which was developed as a prototype to commercial desorbers. A  
treatability study using four representative samples of industrial  
**contaminated** soil was followed by a fundamental study of the **thermal**  
desorption process using three controlled samples prepared by mixing a  
soil with binary mixtures of selected polynuclear aromatic  
hydrocarbons. For the industrial samples the effect of desorber  
residence time, temperature, and several pretreatments on **contaminant**  
**removal** was investigated. Three of the five samples were successfully  
treated to the legislated soil remediation limits. Using the prepared  
samples, the effects of sample porosity, **contaminant** molar mass,  
desorber residence time, and temperature on **thermal** desorption were  
investigated. The experimental results were fitted to an exponential  
desorption equation, and the desorption rate curves were generated to  
provide a basis for scale-up.

32/7/6 (Item 3 from file: 34)  
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci  
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00850790 Genuine Article#: FB525 Number of References: 0  
(NO REFS KEYED)  
**Title:** THERMAL -TREATMENT FOR THE REMOVAL OF PCBS AND OTHER ORGANICS  
FROM SOIL  
**Author(s):** FOX RD; ALPERIN ES; HULS HH  
**Corporate Source:** IT CORP/KNOXVILLE//TN/00000  
**Journal:** ENVIRONMENTAL PROGRESS, 1991, V10, N1, P40-44  
**Language:** ENGLISH **Document Type:** ARTICLE  
**Abstract:** **Thermal** separation is an emerging technology for the treatment  
of **contaminated** soils and solids. The process **removes organic**  
**contaminants** by indirectly **heating** the **soils** and solids to  
temperatures sufficient to vaporize the hazardous components. The  
**organic** vapors in the desorber off-gas are treated either by oxidation  
in a RCRA-standard secondary combustion chamber or by condensation and  
conventional treatment of the small amount of the resultant condensate.

This process had its first successful pilot demonstrations in  
treating Herbicide Orange **contaminated** soils at the Naval  
Construction Battalion Center and at Johnston Island, where **dioxin**  
**contamination** was **reduced** to less than 1 ppb.

This paper summarizes the results of a series of pilot tests,  
conducted under a TSCA R&D permit, on 3 soils **contaminated** with PCBs  
at concentrations ranging from 250 ppm to 4%. To demonstrate the  
process on an engineering scale, IT made 13 runs in the pilot **thermal**  
separator at rates ranging from 18 to 32 kg/hr. Reported are results  
on the effect of temperature and residence time on the quality of

treated soil. The report also summarizes pilot results on a mixed waste soil and soils **contaminated** with PAHs.

32/7/8 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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05046749 JICST ACCESSION NUMBER: 02A0136674 FILE SEGMENT: JICST-E  
**Remediation of Soil Contaminated with Volatile Organic Compounds. Part  
3. Application and Execution System for Heating and Vacuum  
Evaporation.**

MIURA TOSHIHIKO (1); KUBO HIROSHI (1)

(1) Ohbayashi Corp., Tech. Res. Inst.

Obayashigumi Gijutsu Kenkyu Shoho(Report of Obayashi Corporation Technical  
Research Institute), 2002, NO.64, PAGE.91-96, FIG.15, TBL.4, REF.3

JOURNAL NUMBER: G0068BAB ISSN NO: 0385-9657

UNIVERSAL DECIMAL CLASSIFICATION: 614.76 614.7:54+

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: We have developed a new treatment method, called "**Heating and Vacuum Evaporation Method**", for soils **contaminated** with volatile **organic** compounds (VOCs). This method can be applied on a construction site using portable plant. It accelerates the evaporation of VOCs from soil by **heating** and depressurizing, and traps vaporized VOCs gas. Previous reports have shown that this method can be used to **decontaminate** soil **contaminated** with Trichloroethylene (TCE) in 4-8 hours. We set up a model equipment and examined the applicability of this method to various **soil** properties and **contaminants** using Perchloroethylene (PCE), kerosene and heavy oil **contaminated** soil. Some were model **contaminated** soils, and others were taken from **contaminated** sites. Experimental results showed that this method can **decontaminate** soils **contaminated** with PCE and kerosene, but that it can not be applied to soil **contaminated** with heavy oil. Higher temperature, lower air pressure and quicklime pre-mixture can increase the **decontamination** rate. (author abst.)

32/7/9 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03037036 JICST ACCESSION NUMBER: 96A0870812 FILE SEGMENT: JICST-E  
**Soil clean-up equipment by low temperature heat treatment.**

MINETA SHIGEAKI (1)

(1) Hitachi Met., Ltd.

Sangyo Kikai, 1996, NO.552, PAGE.36-39, FIG.4

JOURNAL NUMBER: F0987AAN ISSN NO: 0558-4809

UNIVERSAL DECIMAL CLASSIFICATION: 624/628:628.544

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

ABSTRACT: The titled equipment which treats digged-up soil while **heated** at a temperature higher than the boiling point of **contaminants** is introduced. **Soil** is indirectly **heated** after being charged into multicylindrical pipes in rotary kiln, and volatile **organic** substances are discharged together with carrier gas to be treated with active carbon. As a test result, for tetrachloroethylene its exclusion rates of 97% at the boiling point (122.DEG.C.) and 99.9% at 235.DEG.C. were obtained. Since operation costs do not change depending upon **contamination** concentrations, it was councluded that the equipment was favorable for high-concentration **contaminated** soil.

Set	Items	Description
S1	2023175	SOIL?
S2	400263	HALIDE? OR HALOGEN? OR DIOXIN?
S3	1834349	ORGANIC?
S4	6912067	REMOV? OR REDUC? OR DECONTAMINA? OR DE()CONTAMINA? OR CONT-AMINA? OR PURIF?
S5	2561409	HEAT? OR THERMAL?
S6	2705	PURG?(4N) (GAS OR GASES)
S7	4352	S1 AND S2 AND S3
S8	227	S4 AND S5 AND S6
S9	1	S7 AND S8
S10	1	S1 AND S2 AND S8
S11	5352	S1 AND S2 AND S4
S12	7	S11 AND S6
S13	7	RD (unique items)
S14	6	S13 NOT S10
S15	11079299	TREAT? OR PROCESS?
S16	479534	DECOMPOS? OR DE()COMPOS?
S17	369985	S1 AND S15
S18	774	S5 AND S16 AND S3 AND S2
S19	30	S1 AND S18
S20	23	RD (unique items)
S21	23	S20 NOT S13
S22	0	S21 AND S6
S23	234421	CONTAMINANT?
S24	7854	S1(4N)S23
S25	283	S2 AND S24
S26	4	S6 AND S24
S27	4	RD (unique items)
S28	3	S27 NOT (S14 OR S21)
S29	415	S24 AND S4 AND S5
S30	11	S29 AND (S2 AND S3)
S31	9	S30 NOT (S28 OR S21 OR S14)
S32	9	RD (unique items)
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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

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?ds

Set	Items	Description
S1	109346	SOIL? ?
S2	136872	HALIDE?
S3	614	S1 AND S2
S4	1366	ORGANIC()S2
S5	217921	HALOGEN
S6	19	S1 AND S4
S7	6455	DIOXIN?
S8	9349	ORGANIC(3N) (S2 OR S5 OR S7)
S9	122	S1 AND S8
S10	2848490	DECOMPOS? OR PURIF? OR PURGE? OR HERMETIC? OR REDUC?
S11	76	S9 AND S10
S12	130652	CONTAMINA? OR DECONTAMINA? OR DE()CONTAMINA?
S13	37	S11 AND S12
S14	4888	S1 AND S12
S15	306	S14 AND (S2 OR S5 OR S7)
S16	1524725	ORGANIC
S17	151	S15 AND S16
S18	95	S10 AND S17
S19	95	S13 OR S18
S20	2638608	HEAT? OR THERMAL?
S21	23	S19 AND S20
S22	263048	HALOGEN?
S23	415	S14 AND (S2 OR S7 OR S22)
S24	220	S16 AND S23
S25	135	S10 AND S24
S26	34	S20 AND S25
S27	34	S21 OR S26
S28	1300546	REMOV?
S29	159	S28 AND S1 AND S12 AND (S2 OR S7 OR S22)
S30	52	S29 AND S20
S31	99	S29 AND S16
S32	37	S30 AND S16
S33	20	S32 NOT S27
S34	54	S27 OR S32
S35	6975	PURG?(3N)GAS?
S36	175	S19 OR S26 OR S30:S34
S37	1	S35 AND S36

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